STATE FOREST LAND
ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decided whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. *Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forest land proposals. Adjacency and landscape/ watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at http://www.dnr.wa.gov under "SEPA Center." These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.*

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later. *All of the questions are intended to address the complete proposal as described by your response to question A-11. The proposal acres in question A-11 may cover a larger area than the forest practice application acres, or the actual timber sale acres.*

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered " does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NON PROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer" and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

   Timber Sale Name: **Staying Alive Sorts** *Agreement #:* **30-084742**

2. *Name of applicant*: **Washington State Department of Natural Resources**

3. Address and phone number of applicant and contact person:

   Marcus Johns
   Pacific Cascade Region
   601 Bond Road
   PO Box 280
   Castle Rock, WA 98611-0280

4. Date checklist prepared: **July 7, 2009**

5. Agency requesting checklist: **Washington State Department of Natural Resources**

6. Proposed timing or schedule (including phasing, if applicable):

   a. *Auction Date:* **April 2010**
   b. *Planned contract end date (but may be extended):* **August 31, 2010**
   c. *Phasing:* **None**

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   Timber Sale

   a. *Site preparation:*

      Slash may be piled to ensure sufficient plantable spots and the site may be aerially sprayed to reduce initial competing vegetation.

   b. *Regeneration Method:*

      Units will be hand planted to meet or exceed the minimum Forest Practices' regulations. Some natural regeneration is expected.

c. *Vegetation Management:*

Vegetation management needs may be assessed from plantation ages 3 to 8. Vegetation control activities will occur as needed.

d. *Thinning:*

Pre-commercial thinning needs may be assessed at approximately 7-15 years of age. Commercial thinning potential will be assessed at approximately 25 years of age.

Roads:

Roads remaining at the termination of the sale will be used for future forest management activities. Road maintenance and periodic ditch and culvert cleanout will occur as necessary.

Rock Pits and/or Sale:

The Vantage Quarry will be used to supply the rock for this timber sale, it may be used for future forest road constructions and/or road maintenance activities.

Other:

Landing slash piles may be burned following harvest activities. Firewood salvage may occur after harvest activities.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

☐ *303 (d) – listed water body in WAU:* ☐ *temp* ☐ *sediment* ☐ *completed TMDL (total maximum daily load):*
☐ *Landscape plan:*
☐ *Watershed analysis:*
☐ *Interdisciplinary team (ID Team) report:*
☒ *Road design plan:* **Available at the Pacific Cascade Region office.**
☐ *Wildlife report:*
☐ *Geotechnical report:*
☒ *Other specialist report(s):* **Old Growth Specialist's Report**
☐ *Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):*
☒ *Rock pit plan:* **Available upon request at the Pacific Cascade Region Office.**
☒ *Other:* **Spotted owl habitat mapping, marbled murrelet habitat maps, Forest Practices Activity Maps, WAU maps for rain-on-snow areas, Policy for Sustainable Forests (PSF, December, 2006), State Soil Survey, DNR GIS databases, Habitat Conservation Plan (HCP, January, 1997), HCP Checklist, Weighted Old Growth Habitat Index (WOGHI), Slope Stability Checklist, Planning and Tracking Reports, and associated maps. Available at Pacific Cascade Region Office.**

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

None known.

10. List any government approvals or permits that will be needed for your proposal, if known.

☒ *HPA* ☒ *Burning permit* ☐ *Shoreline permit* ☒ *Incidental take permit* **1168 and PRT B 812521** ☒ *FPA #* **2920383** ☒ *Other:* **Blanket HPA (Control # 103081-1)**

11. Give brief, complete description of our proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include specific information on project description.)

a. *Complete proposal description:*

Unit	Proposal Acres	RMZ/WMZ Acres	Existing Road Acres	Sale Acres	Leave Tree Acres	Harvest Acres
name	*gross*		*within unit*		*clumped acres*	*net*
1	67	9	0	58	4	54
2	58	16	0	42	4	38
3	40.5	9	0.5	31	2	29
Total	165.5	34	0.5	131	10	121

b. *Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.*

Type of Harvest:
This proposal involves the variable retention harvest of 121 acres in three units.
Overall Unit Objective:
The overall objective for this proposal includes generating revenue for the Trusts through the production of saw logs, poles, and pulp material while manipulating the stand to maintain wildlife habitat by developing vertical stand structure and age class distribution in the future stand. This may be obtained through the retention of wildlife trees, legacy trees and RMZs. These stands will be managed to protect site productivity and maintain the integrity and water quality of adjacent streams.

Pre-harvest Stand Description:

Unit	Age	Species Composition
1	64-years-old	**Overstory:** Douglas-fir, western hemlock, western redcedar, red alder, bigleaf maple, black cottonwood. **Understory:** sword fern, salal, Oregon grape, hazel, salmonberry, elderberry, huckleberry, skunk cabbage, devil's club.

2	**70-years-old**	**Overstory:** Douglas-fir, western hemlock, western redcedar, red alder, bigleaf maple, black cottonwood. **Understory:** sword fern, salal, Oregon grape, hazel, salmonberry, elderberry, huckleberry, skunk cabbage, devil's club.
3	**84-years-old**	**Overstory:** Douglas-fir, western hemlock, western redcedar, red alder, bigleaf maple, black cottonwood. **Understory:** sword fern, salal, Oregon grape, hazel, salmonberry, elderberry, huckleberry, skunk cabbage, devil's club.

c. *Road activity summary. See also forest practice application (FPA) for maps and more details.*

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)
Construction		**3446**	**2**	
Reconstruction		**3145**		
Abandonment		**0**	**0**	
Bridge Install/Replace	**0**			
Culvert Install/Replace (fish)	**0**			
Culvert Install/Replace (no fish)	**0**			

12. Location of proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. *(See timber sale map available at DNR region office, and/or color landscape/WAU map on the DNR website http://www.dnr.wa.gov under "SEPA Center.")*

a. Legal description:

Sections 21, 22, 27 and 28, Township 16 North, Range 04 West, W.M.

b. *Distance and direction from nearest town (include road names):*

The proposal is located approximately 8 miles east-northeast of Oakville following US Highway 12 to the D-Line and E-Line forest roads.

c. *Identify the watershed administrative unit (WAU), the WAU Sub-basin(s), and acres. (See also landscape/WAU map on DNR website http://www.dnr.wa.gov under " SEPA Center.")*

WAU Name	WAU Acres	Sub-basin #	Sub-basin Acres	Proposal Acres
Black River	**66,500**	**6**	**3,873**	**86**
		7	**1,301**	**21**
Upper Chehalis/Rock Creek	**27,245**	**8**	**3,698**	**58.5**

13. *Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website http://www.dnr.wa.gov under "SEPA Center" for a broader landscape perspective.)*

The following table is an estimated summary of past and future activities on DNR-managed land and privately managed land in the Black River and Upper Chehalis WAUs. No attempt was made to predict future timber harvest on private ownerships within the WAUs. The source of this information only provided the acreage on the WAU level.

Black River WAU	WAU Acres	Acres of Even-Aged Harvest Within the Last Seven Years	Acres of Uneven-Aged Harvest Within the Last Seven Years	Proposed Even-Aged Harvest in the Future	Proposed Uneven-Aged Harvest in the Future
DNR Managed Land	**4,969 (7.5%)**	**61**	**30**	**506**	**0**
Private Ownership	**61,531 (92.5%)**	**1154**	**538**	**Unknown**	**Unknown**
Total	**66,500**	**1215**	**568**	**506**	**Unknown**

Upper Chehalis / Rock Creek WAU	WAU Acres	Acres of Even-Aged Harvest Within the Last Seven Years	Acres of Uneven-Aged Harvest Within the Last Seven Years	Proposed Even-Aged Harvest in the Future	Proposed Uneven-Aged Harvest in the Future
DNR Managed Land	**14,381 (53%)**	**676**	**11**	**1267**	**0**
Private Ownership	**12,860 (47%)**	**468**	**66**	**Unknown**	**Unknown**
Total	**27,245**	**1144**	**77**	**1267**	**Unknown**

This proposal is located within the Black River and Upper Chehalis-Rock Creek WAUs. Agriculture and home sites are located in the valleys near the major streams. There appears to be a trend towards increasing conversion of agriculture and forest land to home sites in the low to mid elevations. The uplands are mainly managed for timber production. Ownership includes large industrial forests, small private forests, and DNR managed forests. Forested stands within the WAUs appear to be primarily second and third growth stands. The numbers of forest practices shown on the WAU maps (referenced above on the DNR website) along with observations within the WAUs indicate that the WAUs are intensively managed for timber production, including regeneration harvest, thinning, and partial cuts.

The DNR has an HCP agreement with the federal government concerning threatened and endangered species and their habitats, which requires the department to manage landscapes to provide and sustain long-term habitat quality. This agreement substantially helps the department to mitigate for harmful cumulative effects related to management activities. The HCP is designed to protect and improve fish and wildlife species and their habitats over a broad regional area. The applicable HCP strategies incorporated into this proposal are as follows:

- **Retaining Riparian Management Zones (RMZs) averaging 192 feet wide along type 3 streams and 100 feet wide along the type 4 streams, measured from the outer edge of 100 year floodplains.**
- **Evaluating the proposal for potential slope instability.**
- **Retaining a minimum of 8 trees per acre (greater than 12 inches Diameter at Breast Height) clumped and scattered throughout the units.**
- **Analyzing, designing, and constructing roads to minimize affects on the environment.**
- **Retaining RMZs to protect water quality, stream bank integrity and stream temperatures. RMZs will develop older forest characteristics that, in combination with other strategies, will help support older forest dependant wildlife populations. An Equipment Limitation Zone (ELZ), a 30 foot wide strip measured from the ordinary high water mark of five type 5 streams located inside the proposed units and adjacent to the units, will be utilized to decrease the possibility of sediment delivery and loss of stream function.**

To reduce the risk of potential erosion, road cut banks will be re-vegetated prior to the onset of wet weather to prevent sediment delivery and maintain soil stability. Potentially unstable slopes have been protected by removing approximately 0.5 acres from the originally proposed harvest area. The retained trees will continue to evapotranspire, and the interception function of the canopy will be maintained, thereby avoiding a potential increase in runoff and subsurface flow. The retained shrubs will continue to protect the underlying mineral soils from exposure, and thus increased infiltration and increased runoff will also be avoided. Besides reducing the potential for management activities to increase the frequency and severity of mass wasting events, the retained trees and vegetation will also continue to provide wildlife habitat.

The strategy of retaining 8 trees per acre (greater than 12 inches Diameter at Breast Height) in the unit should provide legacy elements for recruitment of future snags, coarse woody debris, multi-layered stands, and large diameter trees. In combination, these features will provide elements of older forest habitat characteristics within the new plantation.

In the Black River and Upper Chehalis-Rock Creek WAUs, 303(d) waters were identified from data taken in 1998. The map dated 2008 provided by DOE at their web site (http://apps.ecy.wa.gov/wqawa2008/viewer.htm) **no longer identifies these waters as 303(d) listed within these WAU's.**

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (check one):

☐Flat, ☐Rolling, ☒Hilly, ☐Steep Slopes, ☐Mountainous, ☐Other:

1) General description of the WAU or sub-basin(s) (landforms, climate, elevations, and forest vegetation zone).

The Black River WAU ranges in elevation from 48 to 1,849 feet. The majority of the WAU consists of low, rolling hills but uplands with greater relief and steeper slopes occur along the western boundary. This WAU receives about 47 inches of precipitation a year. Approximately 95% of the slopes in the WAU are under 30%, 3% of the slopes are between 31% and 65%, and 2% of the slopes are over 65%. The primary timber type is Douglas-fir with secondary species including western redcedar, big leaf maple and western hemlock. This proposal lies within the western hemlock forest vegetation zone.

The Upper Chehalis/Rock Creek WAU ranges from approximately 35 to 1,783 feet in elevation and generally consists of hilly topography with moderate to steep slopes and numerous incised draws. The WAU receives approximately 45 to 60 inches of precipitation annually, the majority of which falls as rain. The primary timber type is Douglas-fir with red alder dominating the draws and lowlands. Secondary species include big leaf maple, western redcedar, Sitka spruce and western hemlock. The WAU is located in the western hemlock vegetation zone.

2) Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).

The proposal area matches the general WAU description.

b. What is the steepest slope on the site (approximate percent slope)?

Unit	Steepest Slope
1	48%
2	50%
3	45%

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland. *Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.*

State Soil Survey #	Soil Texture or Soil Complex Name	% Slope	Acres	Mass Wasting Potential	Erosion Potential
5670	CLAY LOAM	8-30	84	INSIGNIFIC'T	MEDIUM
6638	SILT LOAM	5-30	36	INSIGNIFIC'T	MEDIUM
6640	SILT LOAM	65-90	7	HIGH	HIGH
6639	SILT LOAM	30-65	4	LOW	MEDIUM

The above soils report shows soils from the steeper slope phase, this soil type occurs in Unit 2. The steepest portions of soil type 6440 are encompassed by leave trees. The remaining areas of this soil type that are to be harvested have slopes in the 50% range.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

Yes. A geologist visited the site, and found no evidence of unstable soils within the proposal area.

1) *Surface indications:*

There are visible cracks, slumped earth, and fallen debris along the side slopes of the E-4000 road in the general vicinity of Unit 2.

Additionally, there were two slope failures near unit 3 that occurred due to the 2007 storm. No surface indications were found within the proposal area.

2) *Is there evidence of natural slope failures in the sub-basin(s)?*
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*

There are indicators of shallow slope failures in the sub-basins. These are generally associated with slopes greater than 65%. They are found most commonly within the RMZs along the toe slopes of the main draws, within hollows that extend as far up as mid-slope, and/or within headwalls at the top of the steeper draws. According to the mass wasting assessment these areas are stable in their present configuration. No unstable features were identified within the sale boundary.

3) *Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?*
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:* **Shallow**
Associated management activity: **Roads**

There are a few small failures associated with E-line and E-4000 existing forest roads that directly resulted from heavy rains & concentrated ditch water discharge during the winter of 2007 & 2009.

4) *Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?*
☐*No* ☒*Yes, describe similarities between the conditions and activities on these sites:*

The proposed Unit 2 is immediately adjacent to the E-4000; however, the side slopes of the portion of the E-4000 that are adjacent to the proposed unit are not as steep as the areas that recently failed.

Additionally, the proposed unit 3 is adjacent to the E-Line, the steepest slopes within unit 3 are only 45%.

5) *Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.*

See B.1.h.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.
Approx. acreage new roads: **5** *Approx. acreage new landings:* **1** *Fill source:* **native material**

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Incidental erosion may occur resulting from the yarding of logs and the soils that are exposed during and after road construction. Prudent road location, road construction and maintenance and yarding restrictions will minimize possible erosion.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):*

Less than 1% of the proposal area will be covered with impervious surfaces in the form of gravel roads after harvest operations have been completed.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
(Include protection measures for minimizing compaction or rutting.)

<u>Measures to reduce erosion on roads or during active road construction:</u>
- **Roads will be out-sloped or crowned, ditched and cross-drained.**
- **Soils exposed during road construction may be grass seeded.**
- **Seasonal timing restrictions will prohibit road construction during wet weather conditions.**
- **Cross-drains will be installed and maintained.**
- **Sediment delivery will be addressed as needed during operations with the use of water bars or silt traps.**
- **There will be periodic maintenance and inspection of the road system to insure proper drainage.**

<u>Protection measures to reduce erosion associated with active logging operation:</u>
- **Ground-based yarding will be restricted to slopes less than 35%.**
- **The lead end of all logs will be suspended during all yarding operations.**
- **Tracked skidders will be allowed only during the months when dry soil conditions permit.**
- **Equipment will be limited within 30 feet of the edge of the 100-year flood plain of any stream.**
- **Yarding will be directed away from RMZ boundaries.**

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust *from truck traffic, rock mining, crushing or hauling*, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Minor amounts of engine exhaust from logging and road construction equipment and dust from vehicle traffic on roads will be emitted. If landing debris is burned after harvest is completed, wood smoke will be generated. There will be no emissions once the proposal is complete.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

If landing debris is burned, it will be in accordance with Washington State's Smoke Management Plan. A burn permit will be obtained before burning occurs.

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. *(See timber sale map available at DNR region office, or forest practice application base maps.)*

Yes.

a) Downstream water bodies:

Harris Creek, Black River, Roundtree Creek, and the Chehalis River.

b) Complete the following riparian & wetland management zone table:

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in Feet (per side for streams)
stream	**3**	**4**	**192**
Harris Creek	**4**	**1**	**100**
stream	**4**	**9**	**100**
stream	**5**	**14**	**NA**

c) List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.

Leave trees were placed around portions of type 5 streams and in addition, will be protected by a 30-foot Equipment Limitation Zone. RMZ are no harvest buffers and were measured from the 100-year flood plain.

2) Will the project require any work over, in, or adjacent to (within 200 feet) to the described waters? If yes, please describe and attach available plans.
☐*No* ☒*Yes (See RMZ/WMZ table above and timber sale map available at DNR region office.)*
Description (include culverts):

Tailhold cables may be strung through the type 3 and type 4 RMZs, however, no timber will be yarded through them. Trees will be felled away from streams. Type 5 streams may have tailhold cable strung through them as well as timber yarded through them or across them. Trees may be cut in RMZs for safety or operational needs, but will be left in place. Full suspension is required across all type 5 streams. If yarding occurs near type 5 streams, a 30-foot Equipment Limitation Zone will be utilized to maintain stream function, stream bank integrity and decrease possible sediment delivery.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

Not applicable.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. *(Include diversions for fish-passage culvert installation.)*
☒*No* ☐*Yes, description:*

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
☒*No* ☐*Yes, describe location:*

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
☒*No* ☐*Yes, type and volume:*

7) Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?

Generally, the high potential areas associated with erosion or mass wasting are located on convergent slopes of 65% or greater and often involve unstable soils and/or steep head walls. Some past failures have entered streams in small amounts. With the mitigating measures to be implemented, this proposal is not expected to contribute material to surface waters. See questions B.1.c, B.1.d, B.1.f, B.1.h, and B.3.9.

8) Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), change in channel dimensions)?
☐*No* ☒*Yes, describe changes and possible causes:*

See question B.3.a.13 below.

9) *Could this proposal affect water quality based on the answers to the questions 1-8 above?*
☐*No* ☒*Yes, explain:*

This proposal could possibly introduce minor amounts of sediment into the streams adjacent to the proposal area as a result of road building and harvest operations during early stages of activity. The erosion control measures and operation procedures outlined in B.1.h. are expected to minimize the chances of any sediment delivery.

10) *What are the approximate road miles per square mile in the WAU and sub-basin(s)?*
Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?
☒*No* ☐*Yes, describe:*

WAU	Road Miles/ Miles^2
Black River	**0.6**
Upper Chehalis/Rock Creek	**2.8**

The approximate road mileages for the associated sub-basins are unknown.

11) *Is the proposal within a significant rain-on-snow (ROS) zone? If not,* ***STOP HERE*** *and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.*
☒*No* ☐*Yes, approximate percent of WAU in significant ROS zone.*

Approximate percent of sub-basin(s):

12) *If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?*

13) *Is there evidence of changes to channels associated with peak flows in the WAU or sub-basin(s)?*
☐*No* ☒*Yes, describe observations:*

Normally, there are few significant changes associated with peak flows in the WAU or sub-basins. However, in the winters of 2007 and 2009, two 100-year plus events occurred. The rainstorm set rainfall and flood level records in Southwest Washington. The event caused many shallow mass-wasting events. Many stream channels were altered in this event due to extremely high stream flows with accompanying sediment loads and possibly large woody debris delivery. The full extent of this is not known.

14) *Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.*

This proposal may slightly change the timing/duration/amount of peak flow, and flow rates may increase slightly during low flow periods due to decreased transpiration and interception during the first decade of new forest growth. However, this proposal is not expected to have any noticeable increase in peak flows. See question B.3.a.16 below.

15) *Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?*
☒*No* ☐*Yes, possible impacts:*

16) *Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.*

Policies or procedures in place to minimize possible effects of peak flow event:

- **Type 3 and 4 RMZs**
- **Retention trees (at least 8 trees per acre)**
- **Restricting unit size to 100 acres or less**
- **Allowing green-up of immediately adjacent stands**
- **See B.1.h for further protection measures**

b. Ground *Water*:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

No.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Minor amounts of oil, fuel, and other lubricants may inadvertently be discharged to the ground as a result of heavy equipment use or mechanical failure. No lubricants will be disposed of on-site.

3) *Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?*
☒*No* ☐*Yes, describe:*

a) *Note protection measures, if any.*

No specific protection measures were incorporated into this proposal to protect these resources beyond those described in B.1.d.5. and B.3.a.1.c.

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Storm water runoff from roads and intercepted subsurface flow will be collected by roadside ditches and and diverted onto the forest floor to allow infiltration. Ditch-outs and cross drain culverts will be placed to preclude ditch water directly entering existing stream channels.

2) Could waste materials enter ground or surface waters? If so, generally describe.

Logging slash may enter type 5 streams, but will be removed prior to the completion of harvest operations.

a) *Note protection measures, if any.*

Harvest units have been designed to minimize harvest activity over or adjacent to type 5 streams. A 30-foot Equipment Limitation Zone will be enforced in accordance with current Forest Practices rules.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

See surface water, ground water, and water runoff sections above, questions B-1-h, B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.

4. Plants

a. Check or circle types of vegetation found on the site:

☒deciduous tree: ☒alder, ☒maple, ☐aspen, ☒*cottonwood,* ☐*western larch,* ☐*birch,* ☐other:
☒evergreen tree: ☒*Douglas fir,* ☒*grand fir,* ☐*Pacific silver fir,* ☐*ponderosa pine,* ☐*lodgepole pine,* ☒*western hemlock,* ☐*mountain hemlock,* ☐*Englemann spruce,* ☐*Sitka spruce,* ☒*red cedar,* ☐*yellow cedar,* ☐other:
☒shrubs: ☒*huckleberry,* ☒*salmonberry,* ☒*salal,* ☒*other:* **Oregon grape, elderberry, hazel**
☐grass
☐pasture
☐crop or grain
☒wet soil plants: ☐cattail, ☐buttercup, ☐bullrush, ☒skunk cabbage, ☒*devil's club,* ☐other:
☐water plants: ☐water lily, ☐eelgrass, ☐milfoil, ☐other:
☒other types of vegetation: **sword fern**
☐*plant communities of concern:*

b. What kind and amount of vegetation will be removed or altered? *(See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)*

Approximately 3,100 MBF of Douglas-fir, western hemlock, western redcedar, red alder, bigleaf maple and black cottonwood will be removed from the site.

1) Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See landscape/WAU and adjacency maps on the DNR website at: http://www.dnr.wa.gov under "SEPA Center."

Unit 1	Age and Species
north	State owned 19-year-old Douglas-fir reproduction
south	State owned 100-year-old conifer and hardwood
east	State owned 24-year-old Douglas-fir reproduction
west	State owned 48 and 75-year-old Douglas-fir reproduction

Unit 2	Age and Species
north	State owned 100-year-old conifer and hardwood
south	Privately owned 15-year-old Douglas-fir reproduction
east	State owned 110-year-old conifer and hardwood
west	State owned 14-year-old Douglas-fir reproduction

Unit 3	Age and Species
north	State owned 14-year-old Douglas-fir reproduction
south	State owned 15-year-old Douglas-fir reproduction
east	State owned 27-year-old Douglas-fir reproduction
west	State owned 82-year-old conifer and hardwood

2) *Retention tree plan:*

Unit	Distribution Method for Retention Trees and Snags	Acres in Clumps	Total Trees Left
1	Clumped and scattered	4	464
2	Clumped and scattered	4	336
3	Clumped and scattered	2	248
	Total Leave Tree Acres	10	1048

This timber sale proposal was screened for potential old growth using the Weighted Old Growth Index (WOGI) and a moderate hit was found. A visit to the area with an Old Growth Designee showed no old growth in the proposal area. There was one very large tree that was found and retained as a leave tree.

c. List threatened or endangered *plant* species known to be on or near the site.

None found in database search.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Approximately 10 acres have been left in leave tree areas and 34 acres have been bound out in RMZs to preserve the existing vegetation in the proposal area.

5. Animal

a. Circle or check any birds animals *or unique habitats* which have been observed on or near the site or are known to be on or near the site:

birds: ☒hawk, ☐heron, ☐eagle, ☐songbirds, ☐*pigeon*, ☐other:
mammals: ☒deer, ☒bear, ☒elk, ☐beaver, ☒other: **coyote, cougar**
fish: ☐bass, ☐salmon, ☒trout, ☐herring, ☐shellfish, ☐other:
unique habitats: ☐*talus slopes,* ☐*caves,* ☐*cliffs,* ☐*oak woodlands,* ☐*balds,* ☐*mineral springs*

b. List any threatened or endangered species known to be on or near the site *(include federal- and state-listed species).*

This proposal is located within the overlay of potential Bull Trout and Winter Steelhead habitat. This proposal's protection of fish bearing streams is designed to protect any potential bull trout habitat present. Bull Trout and Winter Steelhead habitat is protected under the Department of Natural Resources HCP's Riparian Strategies.

The DNR's mapped polygon's of murrelet habitats is slightly off and shows reclassified, unoccupied marbled murrelet habitat as being in parts of Units 2 and 3. These areas were evaluated for habitat by a state biologist. Please see her following comment as to concurrence.

As per email from Noelle Nordstrom dated 5/28/09. "This email can serve as my concurrence for the absence of murrelet habitat within Units 2 and 3. In our GIS the polygon of reclassified, unoccupied marbled murrelet habitat is shown to overlap the road just a hair in a couple of places, so that the murrelet polygon appears to extend slightly into the Staying Alive units. I believe this is a mapping error, where the layers don't match up exactly, and that the boundary of the murrelet habitat is meant to follow the road. The forest below the road, inside the timber sale, is mixed big-leaf maple and second-growth Douglas fir."

c. Is the site part of a migration route? If so, explain.
☒*Pacific flyway* ☐*Other migration route:* *Explain if any boxes checked:*

This proposal is located in the migratory waterfowl Pacific flyway within Pacific Northwest forests. Migratory waterfowl also use the Columbia River Flyway; however, the area in which this proposal is contained is not generally the type of area used for resting or feeding by migratory waterfowl. While migrating through Pacific Northwest Forests, many Neotropical migratory birds are closely associated with riparian areas, cliffs, snags, and structurally unique trees. Riparian areas and special habitats are protected through implementation of DNR's Habitat Conservation Plan.

d. Proposed measures to preserve or enhance wildlife, if any:

By designing this sale to comply with the department's HCP, both wildlife and wildlife habitat will be preserved and enhanced. The unit design is also conducive to ungulate feeding patterns. Scattered and clumped leave trees allow raptor perching, feeding, and nesting and areas for neo-tropical migratory birds to use. Well engineered and constructed roads reduce potential water quality impacts for down-stream fish populations. Grass seeding exposed soil aids water quality and provides forage. Large diameter leave trees will enhance the wildlife habitat value of the future stand.

1) Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.

- **Riparian habitat**
  - **RMZ buffers on type 3 and 4 streams**
  - **Equipment Limitation Zone around type 5 streams**
  - **Full-suspension over type 5 streams**
- **Upland habitat**
  - **Cable systems on slopes over 35%**
  - **A minimum of 8 leave trees per acre were left clumped and scattered**

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

None.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

None.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Minimal hazards incidental to operation of heavy machinery such as the risk of fire or small amounts of oil and other lubricants may be accidentally discharged as a result of heavy equipment use.

1) Describe special emergency services that might be required.

There are not any special emergency services required at this time. Pump trucks and/or pump trailers will be required on site during fire season. In the event of a lubricant spill the Purchaser will contact DNR and the Department of Ecology.

2) Proposed measures to reduce or control environmental health hazards, if any:

The cessation of operations may occur during periods of time when the risk of fire is increased. Fire tools and equipment will be kept on site during fire season. No oil or lubricants will be disposed of on site. In the event of a lubricant spill the Purchaser will contact the DNR and the Department of Ecology.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

None.

2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from this site.

Minimal noise levels associated with logging operations and truck traffic. This traffic consistent with the existing traffic. Noise will be increased on site during daylight hours, while operations are being conducted. No long-term impacts are anticipated.

3) Proposed measures to reduce or control noise impacts, if any:

None.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? *(Site includes the complete proposal, e.g. rock pits and access roads.)*

Forest land management.

b. Has the site been used for agriculture? If so, describe.

No.

c. Describe any structures on the site.

None.

d. Will any structures be demolished? If so, what?

No.

e. What is the current zoning classification of the site?

Forest land.

f. What is the current comprehensive plan designation of the site?

Forest land.

g. If applicable, what is the current shoreline master program designation of the site?

N/A

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

No.

i. Approximately how many people would reside or work in the completed project?

None.

j. Approximately how many people would the completed project displace?

None.

k. Proposed measures to avoid or reduce displacement impacts, if any:

None.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

This proposal is consistent with the designated forestland classification.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None.

c. Proposed measures to reduce or control housing impacts, if any:

None.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principle exterior building material(s) proposed?

None.

b. What views in the immediate vicinity would be altered or obstructed?

A view of standing mature timber will be altered to a view of an even-aged timber harvest with clumped wildlife trees, individual wildlife trees and RMZs along type 3 and 4 streams.

1) Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?
☐*No* ☒*Yes, viewing location:* **Rochester**

2) Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?
☐*No* ☒*Yes, scenic corridor name:*

Unit 2 is visible from US Highway 12.

3) How will this proposal affect any views described in 1) or 2) above?

This proposal is visually similar to the surrounding landscape.

c. Proposed measures to reduce or control aesthetic impacts, if any:

Aesthetic impacts will be mitigated by leaving a total of 1048 leave trees clumped and scattered throughout the units. Retaining RMZs averaging 192 feet wide along type 3 streams and a minimum of 100 feet along the type 4 streams. Planting native conifer seedlings to ensure adequate reproduction.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No.

c. What existing off-site sources of light or glare may affect your proposal?

None.

d. Proposed measures to reduce or control light and glare impacts, if any:

None.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

Hunting, berry picking and other informal recreation activities are done within the vicinity.

b. Would the proposed project displace any existing recreational uses? If so, describe:

These activities may be temporarily displaced during operations.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

None.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

None.

c. Proposed measures to reduce or control impacts, if any:
(Include all meetings or consultations with tribes, archaeologists, anthropologists or other authorities.)

A DNR Cultural Resource Technician reviewed the area. In the event that any unknown archaeological resources are encountered, ground disturbing activities would be halted and our Agency Archaeologist contacted to survey the site and develop a Site Protection Plan.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

US Highway 12 to the D-Line and E-Line forest roads.

1) Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?

Traffic from this operation will marginally increase noise, dust, and vehicle density, which may temporarily result in a decrease in safety. Contractual clauses require the operator to use existing safety standards. Truck traffic from this individual operation should not increase the need for public road maintenance.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No.

c. How many parking spaces would the completed project have? How many would the project eliminate?

None.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

No.

1) How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?

This proposal does not significantly affect the current transportation system or traffic circulation. The proposal will increase access to unroaded areas of DNR managed lands.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

During operations, approximately fifteen trips per day will be generated. Upon completion of the proposal, some vehicle trips will be required to burn landing slash piles, reforest the area and maintain the roads and newly established plantation. Recreational vehicle traffic may increase.

g. Proposed measures to reduce or control transportation impacts, if any:

None.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None.

16. **Utilities**

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

None.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

None.

C. **SIGNATURE**

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision. Contract Harvesting Forester 12/21/09

Completed by: for Leslie Meier Forester 1 Date: 7/13/2009
Title

Reviewed by: Marcus A. Johnson Prod. Sales Mgr Date: 12/22/09
Title

Comments: _____